

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY



(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 10 JUL 2006

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Applicant's or agent's file reference SP62H02/P-WO		<b>FOR FURTHER ACTION</b>		See Form PCT/PEA/416
International application No. PCT/EP2005/002706		International filing date (day/month/year) 14.03.2005	Priority date (day/month/year) 19.03.2004	
International Patent Classification (IPC) or national classification and IPC INV. A47D7/00 A47C27/14				
Applicant SPROG LTD et Al.				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 7 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau) a total of 2 sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input checked="" type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input checked="" type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand  19.01.2006		Date of completion of this report  06.07.2006		
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016		Authorized officer  Kus, S  Telephone No. +31 70 340-4154 		

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/EP2005/002706

**Box No. I Basis of the report**

1. With regard to the **language**, this report is based on

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of:
  - ☐ international search (under Rules 12.3(a) and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4(a))
  - ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))

2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

**Description, Pages**

1-6 as originally filed

**Claims, Numbers**

1-17 as amended (together with any statement) under Art. 19 PCT

**Drawings, Sheets**

1/2, 2/2 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

4. ☒ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☒ the claims, Nos. 1(part)
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

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**Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 17

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed (*specify*):

☒ no international search report has been established for the said claims Nos. 17

☐ a meaningful opinion could not be formed without the sequence listing; the applicant did not, within the prescribed time limit:

☐ furnish a sequence listing on paper complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Preliminary Examining Authority in a form and manner acceptable to it.

☐ furnish a sequence listing in electronic form complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Preliminary Examining Authority in a form and manner acceptable to it.

☐ pay the required late furnishing fee for the furnishing of a sequence listing in response to an invitation under Rules 13ter.1(a) or (b) and 13ter.2.

☐ a meaningful opinion could not be formed without the tables related to the sequence listings; the applicant did not, within the prescribed time limit, furnish such tables in electronic form complying with the technical requirements provided for in Annex C-bis of the Administrative Instructions, and such tables were not available to the International Preliminary Examining Authority in a form and manner acceptable to it.

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in electronic form only, do not comply with the technical requirements provided for in Annex C-bis of the Administrative Instructions.

☐ See separate sheet for further details

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	14
	No: Claims	1-13, 15, 16
Inventive step (IS)	Yes: Claims	
	No: Claims	1-16
Industrial applicability (IA)	Yes: Claims	1-16
	No: Claims	

**2. Citations and explanations (Rule 70.7):**

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
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(SEPARATE SHEET)**

International application No.

**PCT/EP2005/002706**

**Re Item I.**

**1.0.** The amendments filed with the International Bureau under Article 19(1) introduce subject-matter which extends beyond the content of the application as filed, contrary to Article 19(2) PCT. The amendments concerned are the following:

"... a plurality of shallow surface channels ..." (cf. claim 1).

Consequently claim 1 has been understood as not having that amendment.

**Re Item III.**

**1.0.** Claim 17 relates to a mattress defined by reference to the description and the drawings. According to Rule 6.2(a) PCT, claims should not contain such references except where absolutely necessary, which is not the case here. Furthermore the features of the claim are not known.

Consequently, the examination has been restricted to claims 1-16

**Re Item V.**

**1.0.** Reference is made to the following documents:

D1: US 2002/178505 A  
D2: US-A-5 463 785  
D3: JP 2001 204590 A  
D4: US-A-4 967 433  
D5: JP 08 252152 A  
D6: US-A-4 796 316  
D7: DE 297 19 194 U1  
D8: DE 196 47 669 A  
D9: US-A-5 546 618

**2.0. INDEPENDENT CLAIM 1**

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**2.1.** The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

Document D3 (see fig. 1-7) discloses (the references in parentheses applying to this document):

a mattress (see fig. 1), comprising:  
a resilient body (1) having at least one upper surface portion for supporting a person;  
and  
a plurality of shallow surface channels (2,3) disposed in the or each upper surface portion and extending parallel thereto  
wherein at least one upper surface portion is upwardly inclined (see fig. 7) relative to the horizontal (cf. claim 1).

**2.2.** Furthermore the documents D1,D4,D5,D7,D8 (see search report) show the characteristics of claim 1.

**3.0. DEPENDENT CLAIMS 2-16**

Dependent claims 2-16 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (see D1-D9 and search report) (Article 33(2) and (3) PCT).



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No.

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**AMENDED CLAIMS**

[received by the International Bureau on 26 September 2005 (26.09.2005);  
original claims 1-17 replaced by amended claims 1-17]

1. A mattress, comprising:  
a resilient body having at least one upper surface portion for supporting a person; and  
a plurality of shallow surface channels disposed in the or each upper surface portion and extending parallel thereto;  
wherein at least one upper surface portion is upwardly inclined relative to the horizontal.
2. The mattress of claim 1, wherein the body has an axis of elongation corresponding to the head-to-toe direction of the person lying, in use, on the mattress, and at least one upper surface portion is inclined relative to the axis of elongation.
3. The mattress of claim 2, wherein at least some of the surface channels have a component of direction, along at least a portion thereof, parallel to the direction of rising incline of the respective surface portion.
4. The mattress of claim 2 or 3, wherein at least some of the surface channels have a component of direction, along at least a portion thereof, parallel to the axis of elongation.
5. The mattress of any of the preceding claims, wherein at least some of the surface channels extend substantially diagonally so as to make an angle of less than 90° with the axis of elongation.
6. The mattress of any of the preceding claims, wherein at least some of the surface channels have a non-linear path, when viewed from above.
7. The mattress of any of the preceding claims, wherein the body comprises sidewalls adjacent said at least one surface portion, the mattress further including at least one connecting channel, the or each connecting channel being in communication with a plurality of said surface channels and with at least one sidewall.



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8. The mattress of claim 7, wherein the or each connecting channel is disposed in the or each upper surface portion.
9. The mattress of claim 7 or 8, wherein the or each connecting channel includes a connecting channel extending centrally parallel to said axis of elongation, and/or includes a connecting channel extending substantially transverse to said axis of elongation.
10. The mattress of any of the preceding claims, wherein said surface channels have a transverse dimension at the surface of about 4 to 15 mm.
11. The mattress of any of the preceding claims, wherein said surface channels spaced apart at the surface by about 5 to 20 mm.
12. The mattress of any of the preceding claims, wherein said surface channels have a transverse cross-sectional area that varies along the length of the channel, for example increasing in size with proximity to the sidewalls of the resilient body.
13. The mattress of any of the preceding claims, wherein said at least one upper surface portion includes a body surface portion for supporting, in use, the body of a person, a head surface portion for supporting, in use, the head of a person, and/or a top surface portion.
14. The mattress of claim 12, when dependent on claim 9, wherein the connecting channel extending substantially transverse to said axis of elongation extends along the lowermost region of said head surface portion.
15. The mattress of any of the preceding claims, wherein, for one or more of the surface portions, said surface channels are provided over substantially the entire surface area thereof.
16. The mattress of any of the preceding claims, wherein said surface channels are distributed over substantially the entire surface area of said surface portions.
17. A mattress substantially as hereinbefore described with reference to the accompanying drawings.